

REMARKS

Applicants concurrently file herewith a Petition for Extension of Time, and corresponding Extension of Time Fee, for a three-month extension of time.

Claims 1, 3, 5, 7, 9, 11, and 13-19 are all of the claims presently pending in the application. Applicants have amended claims 1, 5, and 9 to more particularly define the claimed invention. Applicants have canceled claims 2, 4, 6, 8, 10, and 12.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicants specifically state that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Iguchi et al. (U.S. Patent No. 6,270,596; hereinafter “Iguchi”). Claims 1-4 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Watari et al. (U.S. Patent No. 6,475,305; hereinafter “Watari”). Claims 1-19 stand rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement and the enablement requirement.

These rejections are respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

The claimed invention of exemplary claim 1 provides a steel for use in a high strength pinion shaft including 0.21wt%-0.45wt% Si (e.g., see Application at Table 1). These features are important for providing a steel for use in a high strength pinion shaft which is not refined and used by high frequency hardening, with less occurrence of peeling upon hobbing, having

higher surface hardness and impact value and torsional strength after high frequency hardening, and with less heat treatment strains (see Application at page 5, lines 5-12).

II. THE WRITTEN DESCRIPTION REQUIREMENT

The Examiner alleges that claims 1-19 allegedly fail to comply with the written description requirement.

Specifically, the Examiner alleges that the originally filed specification does not provide support for the limitation, "wherein the steel is devoid of Cr, Cu, Ni and Al". Indeed, the Examiner alleges, "The specification therefore does not appear to support an embodiment that does not have Al added." Furthermore, the Examiner alleges, "the specification does not appear to disclose refining the steel to remove trace impurities of Cr, Cu, Ni and Al, or test data showing that such are absent." (See Office Action dated September 14, 2007 at page 4). Each of the Examiner's allegations, however, are clearly incorrect.

That is, Applicants point out that the addition of Cr, Cu, Ni, and Al is clearly disclosed as being optional in the Application.

Indeed, Table 1 of the Application clearly illustrates several examples (e.g., examples 1, 3, and 6), which do not include any of Cr, Cu, Ni, and Al. Therefore, the Examiner's allegation that , "The specification therefore does not appear to support an embodiment that does not have Al added", is clearly without merit.

Furthermore, Applicants point out that Applicant is not required "to disclose refining the steel to remove trace impurities of Cr, Cu, Ni and Al." Indeed, the Application does not disclose that these elements (trace impurities or otherwise) are necessarily included. Therefore there is no need to explain how such trace impurities would be removed in order to satisfy the written description requirement.

Accordingly, Applicants submit that the claimed invention of claims 1-19 clearly satisfies the written description requirement of 35 U.S.C. § 112, first paragraph.

III. THE ENABLEMENT REJECTION

The Examiner alleges that claims 1-19 allegedly fail to comply with the enablement requirement.

Specifically, the Examiner alleges that the originally filed specification does not provide an enabling disclosure for the limitation, “wherein the steel is devoid of Cr, Cu, Ni and Al”. Indeed, the Examiner alleges, “While the specification is enabling for making steel without the addition of Cr, Cu and Ni, it does not address removal of trace impurity levels of these elements. Further, the specification recites on p.15 that Al is added to the steel for deoxidation.” (See Office Action dated September 14, 2007 at page 4). Each of the Examiner’s allegations, however, is clearly incorrect.

First, Applicants submit that the Examiner has failed to meet her burden with respect to establishing an enablement rejection.

That is, the M.P.E.P. clearly sets forth that for a disclosure to be enabling, the specification must show (as set forth in 35 U.S.C. §112, first paragraph):

- 1) A manner and process
- 2) of making and using the invention
- 3) in full, clear, concise and exact terms
- 4) that will enable one skilled in the relevant art to make and use the invention
- 5) assuming access to common knowledge
- 6) without undue experimentation

The enablement requirement has been interpreted as whether one reasonably skilled in

the art could make and use the invention from the disclosure in the specification coupled with information known in the art without undue experimentation. *United States v. Telectronics, Inc.* 857 F. 2d 778, 8 USPQ2d 1217 (CAFC 1988) (see M.P.E.P. §2164).

The fact that experimentation may be complex does not necessarily make it undue, if the art typically engages in such experimentation. *In re Certain Limited-Charge Cell Culture Microcarriers*, 221 USPQ 1165, 1174 (Int'l Trade Comm'n 1983). There are several factors to consider when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is undue, including:

- 1) The breadth of the claims;
- 2) The nature of the invention;
- 3) The state of the prior art;
- 4) The level of one of ordinary skill;
- 5) The level of predictability in the art;
- 6) The amount of direction provided by the inventor;
- 7) The existence of working examples; and
- 8) The quantity of experimentation needed to make or use the invention based on the content of the disclosure

It is improper to conclude that a specification is not enabling based on an analysis of only one of the factors while ignoring the others. The examiner's analysis must consider all of the evidence related to each of the factors (see MPEP §2164.01).

Furthermore, the initial burden is on the examiner to establish a reasonable basis for questioning the adequacy for the disclosure to make and use the claimed invention without resorting to undue experimentation. *In re Brown*, 177 USPQ 691 (CCPA 1973). Having done

this, the burden shifts to the applicant to rebut the rejection by factually demonstrating that the specification is in fact sufficient. *In re Doyle*, 179 USPQ 227. (See M.P.E.P. § 2164.04).

There is no evidence in the Office Action that the Examiner has considered any of the above criteria nor that the Examiner has applied the above standard for enablement.

Accordingly, the Examiner has failed to meet the initial burden in attempting to establish a rejection for an alleged lack of enablement.

Moreover, Applicants point out that the addition of Cr, Cu, Ni, and Al is clearly disclosed as being optional in the Application.

Indeed, Table 1 of the Application clearly illustrates several examples (e.g., examples 1, 3, and 6), which do not include any of Cr, Cu, Ni, and Al. Therefore, the Examiner's allegation that, "The specification therefore does not appear to support an embodiment that does not have Al added", is clearly without merit.

Furthermore, Applicants point out that Applicant is not required "to disclose refining the steel to remove trace impurities of Cr, Cu, Ni and Al." Indeed, the Application does not disclose that these elements (trace impurities or otherwise) are necessarily included. Therefore there is no need to explain how such trace impurities would be removed in order to satisfy the written description requirement.

Indeed, even if it is necessary to remove trace impurities of Cr, Cu, Ni, and Al, Applicants submit that one of ordinary skill in the art could clearly accomplish such removal without undue experimentation.

Accordingly, Applicants submit that the claimed invention of claims 1-19 clearly satisfies the enablement requirement of 35 U.S.C. § 112, first paragraph.

IV. THE PRIOR ART REFERENCES

The Examiner alleges that the claimed invention of claims 1-19 would have been obvious in view of Iguchi. Furthermore, the Examiner alleges that the claimed invention of claims 1-4 and 13 would have been obvious in view of Watari. Applicants submit that the cited references do not teach or suggest each and every feature of the claimed invention.

Other than Al, Si is added for the purpose of a deoxidation effect (e.g., see page 11 of the specification). As described in the specification, Al is also added for the purpose of a deoxidation effect. However, the amount of the addition of Al is small and cannot be treated as the substantial components.

If a large amount of Al is added like Al killed fatigued steel then, Al remains in the steel. But, if the small amount of Al is added like the invention, most of the Al is floated as Al₂O₃ in the slag and does not remain in the steel.

Iguchi discloses a range no more than 0.15wt% of Si. However, this disclosed value is lower than 0.21 wt% of Si, as recited in the lower limit of the claimed invention.

Further, Watari discloses 0.5-2.5 wt% of Si. This range also does not overlap with the range of the claimed invention.

Therefore, Applicants submit that, even if combined, the alleged combination of references would not teach or suggest each and every feature of the claimed invention.

Therefore, Applicants respectfully request the Examiner to withdraw this rejection.

V. FORMAL MATTERS AND CONCLUSION

In view of the foregoing, Applicants submit that claims 1, 3, 5, 7, 9, 11, 13-19, all of the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. Applicants respectfully request the Examiner to pass the above application to issue at the earliest possible time.

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Should the Examiner find the application to be other than in condition for allowance, Applicants requests the Examiner to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The undersigned authorizes the Commissioner to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

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Scott M. Tulino, Esq.
Registration No. 48,317

Sean M. McGinn, Esq.
Registration No. 34,386

**MCGINN INTELLECTUAL PROPERTY
LAW GROUP, PLLC**
8321 Old Courthouse Road, Suite 200
Vienna, VA 22182-3817
(703) 761-4100
Customer No. 21254